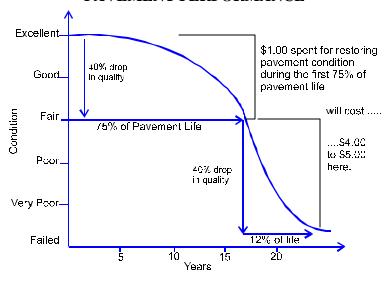


## **PAVEMENT CONDITION**

A significant investment the State, cities, and towns make in the transportation infrastructure involves highway pavements. Because pavements represent such a large investment, they deserve constant attention to keep them in good condition to support the level of service for which they were designed. Poorly maintained surfaces increase travel time, decrease the capacity of the road, can create unsafe conditions for the traveling public, and increase maintenance costs. The cost to rehabilitate pavements increases dramatically when the restorative treatment is delayed beyond a reasonable time frame. The best pavement rehabilitation treatments are determined through the NHDOT's emerging pavement management program.

New Hampshire's pavement management plan depends on the experience and suggestions of maintenance personnel who "live" with the roads on a daily basis. Their observations, together with information provided by pavement condition data collection efforts are used to develop annual pavement rehabilitation plans. The NHDOT has purchased pavement management software and is integrating it into the decision making process.

## PAVEMENT PERFORMANCE

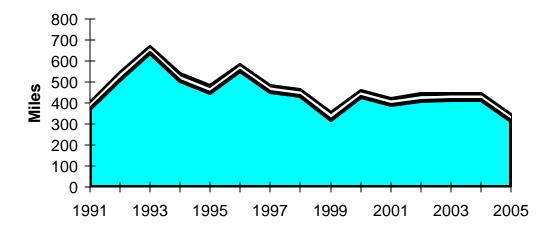


The above curve demonstrates the advantage of timely treatment to contain costs for rehabilitating a typical stretch of roadway. The curve is representative for a road with a design life of about twenty years. A slow decline in pavement condition, followed by a much sharper decline is typical. Minor pavement maintenance before year 15 will generally restore the pavement condition for about five years. If treatment is delayed for another 3 years, it will cost 4 to 5 times more than the minor treatment.

Following 1991, increased funding allowed more resurfacing work to be accomplished with more extensive treatments. Subsequently, with increased costs and other priorities the mileage of



resurfacing work has leveled off and, to a degree, has somewhat declined. The following chart shows the number of resurfacing miles each year since 1991:



The current 2006 Resurfacing Plan is expected to address approximately 330 miles of needs. The following table along with the accompanying map illustrates pavement condition in the state based on 2004 pavement data.

PAVEMENT CONDITION	MILES *	COLOR
No Work Required	426	Green
Some Work Required	1770	Yellow
Major Work Required	1226	Red
Total	3422	

<sup>\*</sup> Out of 4,814 miles of State maintained roads, 3,422 mikes were surveyed in 2004 relative to road condition

## **Expected Future Conditions**

The expected future condition of our pavements is based on a number of factors. These include, but are not limited to, the type and depth of base material, the most recent date of construction, traffic and heavy truck volumes, and roadway drainage features. If this information is known for a particular roadway, some assumptions can be made to predict a pavement's future condition. Many roads in this state have evolved from old wagon trails or cow paths, with little done over the intervening years to address subgrade issues. For those roads that are newer, designs include good base structure and material to support the pavement on top of it.

Pavements built with substantial base courses generally require little work until 15 years after construction. If the road is maintained and resurfaced every 8-12 years, the pavement should remain in a good condition.



Pavements that evolved out of some former type of trail or path typically have little or no structural support under the pavement. Because of this, maintenance is required more frequently. Roads like these will typically be in fair condition at best or in poor condition at worst. Unless there is complete reconstruction, it is unlikely the road will be in good or excellent condition. Typically, any resurfacing or other maintenance project will show only an improvement for a very short period of time (perhaps 5 years) before it is back to fair/poor condition again.

The NHDOT's current philosophy is to keep roadways that are the most widely used in good condition. These roads are most likely to have been constructed or reconstructed with a good base, due to the amount of traffic using the road.

Less traveled, poor condition roads, though treated regularly, are seldom in better than fair condition. The prohibitive cost of complete reconstruction prevents a better solution to the problem. The Highway Maintenance Districts have begun a plan of "Low Cost Reconstruction" to address these roads. Less expensive than normal reconstruction, this plan includes upgrading highway drainage, recycling pavement, and resurfacing. This program holds promise for lower volume state maintained roads.

One of NHDOT's goals is to address roads in poor condition. The major objective for the future will be to upgrade those roads in poorer condition, while maintaining those in good condition. Newer technologies and maintenance techniques, such as thicker overlays, are being investigated, to increase pavement service life. Continued funding and local project ranking will remain important elements in addressing low volume highways on the State's system.

